

FOURTH EDITION

# Fluid, Electrolyte, & Acid-Base Physiology

A PROBLEM-BASED APPROACH

Halperin, Goldstein, & Kamel

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**chapter 1**

**P rinciples of Acid-Base Physiology**

## Introduction

Our goal in this chapter is to describe the physiology of hydrogen ions ( $H^+$ ). It quickly becomes apparent that many issues are difficult to understand unless one stops frequently to examine the “big picture.” For example, based on the chemistry,  $H^+$  are the smallest ions (atomic weight 1) and their concentration in body fluids is tiny (a millionfold lower than that of  $HCO_3^-$ , their major

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